 02288

NPIC/TSG/RED-041-70
21 September 1970

MEMORANDUM FOR: Chief, Research and Engineering Division, TSG

SUBJECT : Completion and Termination of Contract [redacted] [redacted] 25X1

1. This contract was for the development of the first model prototype of a 1540 Split-Format Light Table by the [redacted] 25X1
[redacted] fixed-price contract for [redacted] the contractual 25X1
period of performance for all work was 28 June 1968 to 1 November 1968.

2. The prototype light table was delivered 6 February 1969, and the operator's and maintenance manual was delivered 3 August 1970. Because of being almost two years late in satisfying the terms of this contract, and because of being quite unresponsive to requests for delivery of the required manuals, the overall performance of the contractor is judged to be minimum acceptable. Technical competence is judged to be good.

3. As a result of this contract, [redacted] 25X1
[redacted] produced with private funding their own 1540 light table. Evaluation of both the [redacted] instruments suggested the 25X1
award of parallel contracts to these companies to develop a second version prototype table that would include the best features of the earlier efforts. [redacted] was successful in this competition and was awarded a contract for 436 tables at a total price of approximately [redacted] 25X1

[redacted]
Project Monitor

CONCURRENCT: [redacted]
Chief/Systems Development Branch

Distribution:
Original - Addressee
1 - Contract File
1 - RED/SDB/Chrono
NPIC/TSG/RED/SDB/[redacted] 21 September 1970

Declass Review by NGA.

CUSTODY RECEIPT - PROPERTY PASS
SEE INSTRUCTIONS ON REVERSE SIDE

DATE: May 22, 1969

PROPERTY ACCOUNT NUMBER: Prototype

ITEM DESCRIPTION *(Include identifying characteristics such as make, model, serial no.)*

X1 [redacted] Prototype Split-Format 1540 Light Table being returned to [redacted] for modification. 25X

ACKNOWLEDGEMENT OF RESPONSIBILITY

I acknowledge full responsibility for the protection and preservation of the above property while it is in my custody and am aware that I can be held pecuniarily liable for any loss or damage which might be determined to be caused by my negligence.

X1

TYPED OR PRINTED NAME OF USER	USER'S BADGE NO.	SIGNATURE OF USER
[redacted]	A-269	

SECURITY OFFICER	USER

FORM 10-61 1051

(29-33)

[redacted] 02288 25X1

PROGRESS REPORT FOR NOVEMBER 1968
RE CONTRACT [redacted]
SPLIT-FORMAT 1540 LIGHT TABLE

Rec'd 12/16/68 25X1

ACTIVITY THROUGH 30 NOVEMBER 1968

Design work has been proceeding at an increased rate, with additional personnel assigned to this project. Detailing of the various elements and systems incorporated in the 1540 table has been progressing as noted below, and releases have been made as details have been available for both fabrication and purchased parts.

} Additional personnel reported in progress report for Oct.

The light box section has been detailed, including front, rear, end and center plates, film take-up and glass mounting. The light grid configuration has been designed and a prototype grid tested and found to perform satisfactorily. Power circuit tests on the light system indicate no problems. Detailing and required tooling for forming the lamp housing are progressing for release in early December.

Work on the fine-feed system for the optics carriage has indicated a strong desirability for powered fine feeds for optics translation. The system parameters have been defined by tests which indicate that a translation speed to cover the diameter of the optics field in 3 seconds allows for easy control and adequate sensitivity. Miniature gear motors and a 4-pole 5-position thumb switch are to be ordered early in December to permit full test and evaluation of this system by early January. This system places the traversing and speed controls immediately adjacent to the optics unit and affords easy yet positive control of microscope position.

Circuit designs and tests have made good progress for the film transport system. A second prototype circuit board was fabricated and tested. Further tests of the response characteristics of the manual film crank/tachometer generator coupling are to be run as soon as the gear elements are received.

Designs have been made and prototypes fabricated for the motor reel brackets to be used, with provisions incorporated for emergency hand cranks in the event of power or circuit failure.

Detail designs are expected to be completed by the latter part of Decem-

25X1 [redacted]

ber for the elevating base assembly with optional manual or power operation. The addition of power elevation is considered advantageous with the reach required by the operator on this equipment to view films toward the rear of the viewing area. Power elevation facilitates the height adjustment of the table with the operator seated in his normal working position, and permits the operator to lower the table to a lower position than he could normally use and still get up or sit down comfortably.

Investigations are being made into means for getting full coverage of the edges of the lighted area by the masking units. It appears that substantial improvement can be made over the present masks, but that absolute coverage cannot be readily realized.

Previous dates for prototype fabrication have not been met due to pressures deriving from production problems on the current split-stage light tables. These problems have required more engineering manpower than was anticipated. It now appears realistic, that the operating prototype should be ready for functional test and demonstration about 20 January. Part of the delay is due to the improvements being made in some of the systems as noted above.

02258

Due 1 Nov 68
no later than 15 Nov.
Rec'd 14 Nov 68

[redacted] 25X1

12 November 1968

PROGRESS REPORT FOR OCTOBER 1968
RE CONTRACT [redacted] 25X1
SPLIT-FORMAT 1540 LIGHT TABLE

ACTIVITY THROUGH 31 OCTOBER 1968

Design reviews with customer technical personnel early in October covered the basic design features of the 1540 design. Consideration was given to tilting the viewing plane 10° toward the operator to reduce the reach to the microscope eyepieces, but it was decided to keep the plane horizontal because of film hold-down devices now in use.

Substantial work has been done on a new mode of manual/motorized film transport to improve the human factors of previous units in film handling. The new system utilizes electrically coupled hand cranks for fine positioning and short distance film movement, with full motor drive optionally available at all times. With this system, one hand crank can move one or two films in conventional threaded configuration, independently or simultaneously in the same or opposite directions. Manual/motorized transport applies equally well to split-vertical configuration. The film handling in this system is "soft", preventing cinching of the film and dropping of slack, since the film is kept under controlled tension and limited acceleration at all times.

Detailing of parts and ordering of purchased parts and raw materials has been proceeding as fast as the parts can be defined.

25X1 The clearances and compatibility of the master carriage were checked with the mock-up of the [redacted] advanced stereoscope, and found to be completely satisfactory. No carriage changes are required.

This was checked during visit to [redacted] 25X1 7 October 68

The "Y"-direction fine positioning control has been moved forward to reduce the operator reach. As yet no satisfactory means has been found to move the "X"-direction fine positioning control up front for the same purpose, but efforts are continuing.

Every effort is being made to have a working assembly of the basic table operating by 1 December.

Our engineering group has been re-oriented to accommodate our current and anticipated design workload as well as advanced development projects. This has resulted in an increase of design manpower being available on the 1540 project.

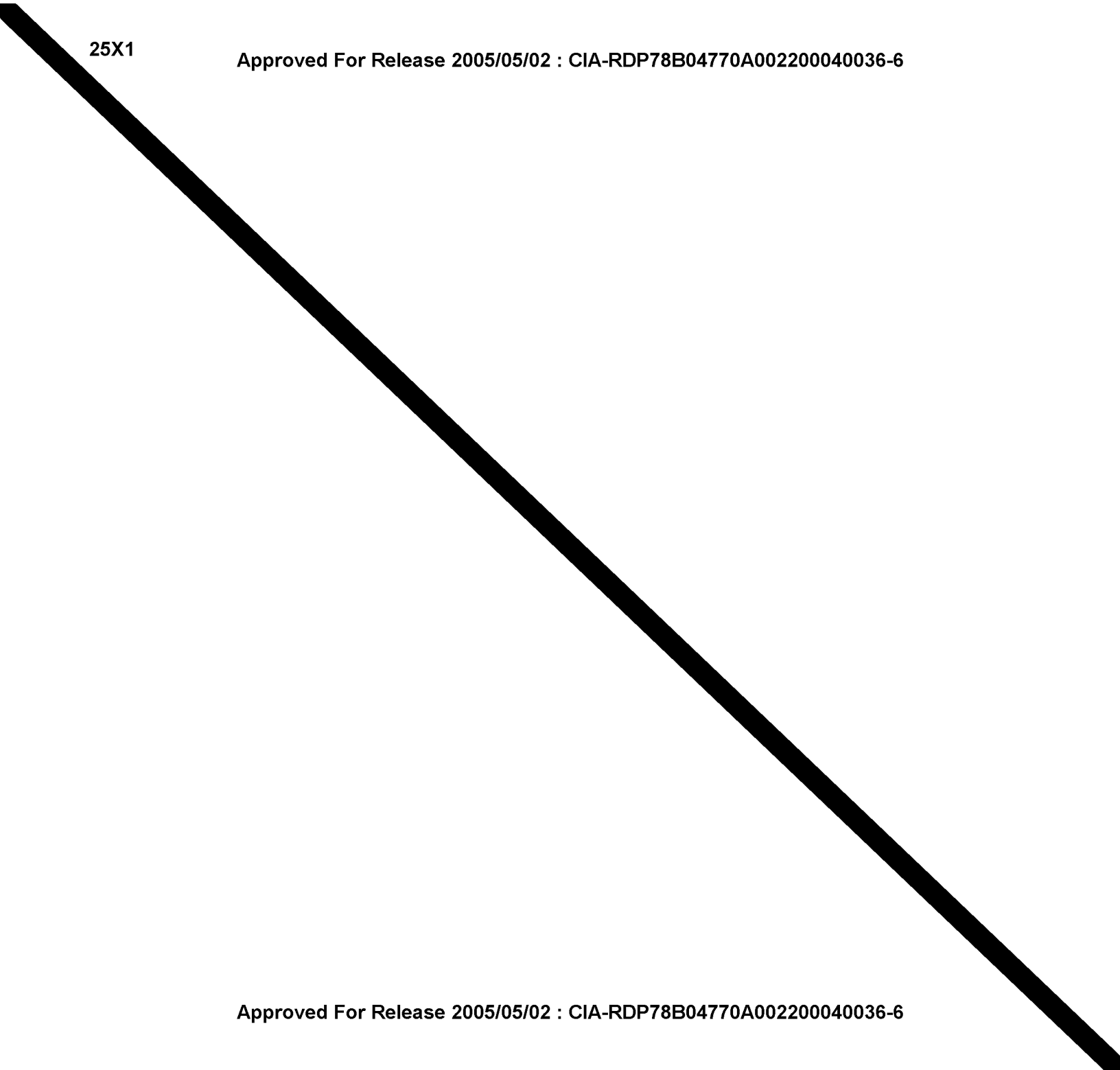
25X1 [redacted]

CENTER ROUTING SLIP

FROM: DED/TSSG	DATE

TO		INITIALS	DATE	REMARKS
DIRECTOR				
DEP/DIRECTOR				
EXEC/DIRECTOR				
SPECIAL ASST				
ASST TO DIR				
ASST TO DEP/DIR				
CH/PPBS				
DEP CH/PPBS				
EO/PPBS				
CH/IEG				
DEP CH/IEG				
EO/IEG				
CH/PSG				
DEP CH/PSG				
EO/PSG				
CH/DBD/PSG				
CH/TSSG	✓			For your info
DEP CH/TSSG				
EO/TSSG				
DIR/IAS/DDI				
CH/DIA/XX4				
CH/DIA/AP-1P				
CH/SPAD				

IP FM 30 (1-68) DESTROY PREVIOUS EDITIONS



Approved For Release 2005/05/02 : CIA-RDP78B04770A002200040036-6

02288

24 October 1968

X1 COMMENTS ON [redacted] PROGRESS REPORT DATED 16 OCTOBER 1968

Paragraph 1 - The completed design studies must have been carried out in
X1 [redacted] head. During monitoring visits as recent as 11
X1 October 1968 [redacted] was discussing and explaining broad aspects of the contract requirements with his designers. None of the designs had appeared in the form of a drawing.
X1 [redacted] did mention on 11 October 1968 that the 1540 project was being held up because of another light table production run. He also stated that problem solving on those tables would benefit the 1540 project.

Paragraph 2 - The outline drawing mentioned did indeed show the general configuration--a decidedly general configuration. It essentially shows the 940 table stretched in the Y-direction to accommodate the 14-inch dimension. No details of any kind appear on the drawing.
X1 [redacted] was advised over the telephone on 16 October that a 14-inch wide lighted area was acceptable. He stated at that time that a 14 1/2-inch dimension worked out better and the lighted area was to be that wide.

Paragraph 4 - This design detail was mentioned during the visit of 11 Oct. 68. Again, this came from [redacted] and there were no drawings in existence. 25

Paragraph 5 - To the best of my recollection, this is the first time this elevating base detail has been mentioned.

The next reporting period is 1-31 October 1968 since the report dated 16 October 1968 is for the month of September.

Paragraph 6 - The only detail that could be reviewed in the drawing of 11 October 1968 was the position of the crank handles to drive the film. The drawing shows the handles out-board of the
X1 light box. [redacted] has previously been advised that although out-board crank handles does not appear to greatly inconvenience the PI, human factors considerations indicate that it is preferable to have the drive handles in-board on the light box.

It is not clear as to why any review of the specifications is necessary.

X1 Paragraph 7 - [redacted] has verbally stated that delivery of the prototype has slipped approximately 6 weeks. Unless there is substantial progress since 11 October, and without substantial spin-off from the concurrent production effort mentioned, a 6-weeks slippage or more appears more realistic.

25 [redacted]

1st Monthly Report
This report was due 1 Aug 68,
no later than 15 Aug 68.
+ delivered by hand of
on 16 Oct 68.
DATT 10/23/68

25X1

02288

25X1

16 October 1968

25X1

PROGRESS REPORT FOR SEPTEMBER 1968
RE CONTRACT
SPLIT-FORMAT 1540 LIGHT TABLE

25X1

Next monthly report should cover period of 1-31 October 68, due no later than 15 Nov. 68

ACTIVITY THROUGH 30 SEPTEMBER 1968

Design studies have been completed for all major new design elements of the 1540 light table. In the final production engineering for the MIM-4 Series Light Tables, continued attention to design factors affecting the 1540 light table has enabled broad usage of common parts in the 1540.

An outline drawing of the 1540 Light Table, #R-17662, shows the general configuration anticipated for the light table.

The nominal lighted area of 15" x 20" has been reduced to 14" x 20", since none of the specified film formats requires more than that area.

The Y-rails will utilize open sided Thomson ball bushings to permit use of intermediate jack screws under the bearing rails to reduce deflections of the carriage over the full carriage traverse.

The elevating base for the 1540 table is to be a new type using roller chains and heavy duty ball slides to lift from beneath the table rather from behind as on our previous MIM Series tables, in order to minimize the overall width of the machine. This also permits location of the elevating crank at the front of the unit where it can be operated from a sitting position. Some consideration of motorizing the elevation to facilitate operation with the optics to the rear of the film stage and for ease of threading split vertical films. We believe that the power elevation will encourage the operator to adjust the unit to his task. This change, if adopted within the next reporting period, will not alter the prototype price.

A review of the outline drawing and specifications is to be made shortly after 1 October. This review is expected to clarify some of the human factors considerations, particularly in the film drive means.

Delivery of the prototype has slipped approximately 4 weeks from the originally anticipated 1 November date. This delay has been caused primarily by the concurrent production engineering workload in conjunction with the split-stage mechanical take-up light tables now in production. However, a number of significant improvements from that product engineering effort will reflect in improved performance of the 1504 unit.

25X1